EAST Search History

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	652	544/236.ccls.	US-PGPUB; USPAT; USOCR	OR	ON	2007/06/15 18:08

Cecilia Jaisle

10522798

INVENTOR SEARCH

=> d ibib abs ind hitstr l6 1-1

L6 ANSWER 1 OF 1 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2004:101165 HCAPLUS Full-text
DOCUMENT NUMBER: 140:128426
TITLE: Preparation of imidazo[1,2-b]pyridazine derivatives
INVENTOR(S): **Tabuchi, Takanori; Yamamoto, Tetsuhiro; Kajiwara, Takeshi**
PATENT ASSIGNEE(S): Sumitomo Chemical Takeda Agro Company, Limited, Japan
SOURCE: PCT Int. Appl., 43 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004011466	A1	20040205	WO 2003-JP9003	20030716
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
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WO 2003061388	A1	20030731	WO 2003-JP244	20030115
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AU 2003252509	A1	20040216	AU 2003-252509	20030716
EP 1541575	A1	20050615	EP 2003-771268	20030716
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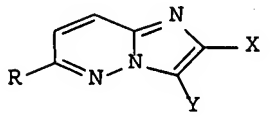
US 2005171108	A1	20050804	US 2003-522798	20030716
IN 2005CN00086	A	20070330	IN 2005-CN86	20050127
JP 2005239735	A	20050908	JP 2005-94153	20050329
JP 2005325127	A	20051124	JP 2005-173888	20050614
PRIORITY APPLN. INFO.:			JP 2002-219786	A 20020729
			WO 2003-JP244	A 20030115
			JP 2003-85617	A 20030326
			JP 2002-10246	A 20020118
			JP 2003-6756	A3 20030115
			WO 2003-JP9003	W 20030716
			JP 2005-94153	A3 20050329

OTHER SOURCE(S): CASREACT 140:128426; MARPAT 140:128426

GI



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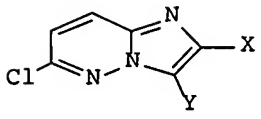


II

AB A process for easily and inexpensively producing an imidazo[1,2- b]pyridazin-3-ylsulfonamide derivative which has a substituent bonded to the 6-position carbon atom and is represented by the formula I(wherein R represents lower alkyl, lower cycloalkyl optionally substituted by lower alkyl, lower alkenyl, or lower alkynyl), the process comprising reacting an imidazo[1,2-b]pyridazine compound represented by the formula II (wherein X represents halogeno or lower alkyl optionally substituted by halogeno; Y represents hydrogen or SO2N = CH-NR1R2; and Z represents halogeno or OSO2R3) with an organometallic compound in the presence of a transition metal catalyst. The derivative is useful as an intermediate for herbicides. Thus, reaction of 6-chloro-2-methylimidazo[1,2-b]pyridazine with EtMgBr in Et2O and THF in the presence of NiCl2(dppp) gave 27.4% 6-ethyl-2-methylimidazo[1,2-b]pyridazine.

IC ICM C07D487-04

CC 28-15 (Heterocyclic Compounds (More Than One Hetero Atom))
Section cross-reference(s): 5

ST imidazopyridazine prepn intermediate herbicide

IT Herbicides
(intermediates; preparation of imidazopyridazines as intermediates for herbicides)

IT **15629-92-2**
RL: CAT (Catalyst use); USES (Uses)
(preparation of imidazopyridazines as intermediates for herbicides)

IT **570416-17-0P 570416-18-1P 570416-19-2P**
570416-23-8P 570416-24-9P 570416-44-3P
570416-45-4P 570416-46-5P 570416-47-6P
649736-88-9P
RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP (Preparation)
(preparation of imidazopyridazines as intermediates for herbicides)

IT **109-72-8**, Butyllithium, reactions **925-90-6**, Ethylmagnesium bromide **926-62-5**, Isobutylmagnesium bromide **927-77-5**, n-Propylmagnesium bromide **1730-25-2**, Allylmagnesium bromide **2234-82-4**, n-Propylmagnesium chloride **2386-64-3**, Ethylmagnesium chloride **2591-76-6** **4637-24-5**, DMF dimethyl acetal **7790-94-5**, Chlorosulfonic acid **14092-04-7**, 1-Propenylmagnesium bromide **14793-00-1** **23719-80-4**, Cyclopropylmagnesium bromide **112581-77-8** **112582-77-1** **156567-57-6**, n-Propylzinc bromide **570416-53-4** **649736-83-4**
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of imidazopyridazines as intermediates for herbicides)

IT **570416-03-4P 570416-04-5P 570416-05-6P**
570416-06-7P 570416-07-8P 570416-08-9P
570416-12-5P 649736-84-5P 649736-85-6P
649736-86-7P 649736-87-8P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT

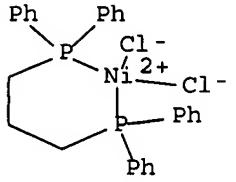
(Reactant or reagent)
(preparation of imidazopyridazines as intermediates for herbicides)

IT **649736-89-0P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of imidazopyridazines as intermediates for herbicides)

IT **15629-92-2**
RL: CAT (Catalyst use); USES (Uses)
(preparation of imidazopyridazines as intermediates for herbicides)

RN 15629-92-2 HCAPLUS

CN Nickel, dichloro[1,3-propanediylbis[diphenylphosphine-κP]]- (9CI) (CA INDEX NAME)



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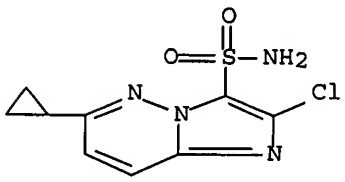
570416-23-8P 570416-24-9P 570416-44-3P
570416-45-4P 570416-46-5P 570416-47-6P
649736-88-9P
RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP (Preparation)
(preparation of imidazopyridazines as intermediates for herbicides)

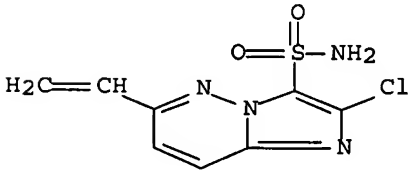
RN 570416-17-0 HCAPLUS

CN Imidazo[1,2-b]pyridazine-3-sulfonamide, 2-chloro-6-cyclopropyl- (9CI) (CA INDEX NAME)



RN 570416-18-1 HCAPLUS

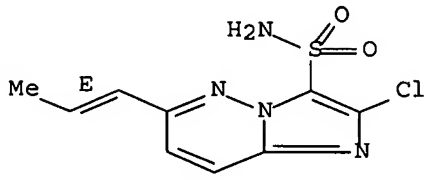
CN Imidazo[1,2-b]pyridazine-3-sulfonamide, 2-chloro-6-ethenyl- (9CI) (CA INDEX NAME)



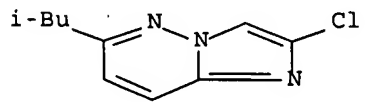
RN 570416-19-2 HCAPLUS

CN Imidazo[1,2-b]pyridazine-3-sulfonamide, 2-chloro-6-(1E)-1-propenyl- (9CI) (CA INDEX NAME)

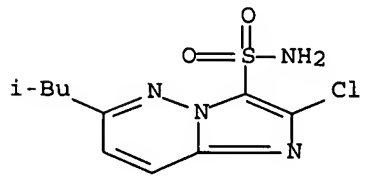
Double bond geometry as shown.



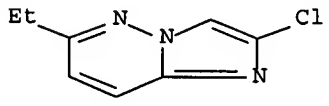
RN 570416-23-8 HCAPLUS
CN Imidazo[1,2-b]pyridazine, 2-chloro-6-(2-methylpropyl)- (9CI) (CA INDEX NAME)



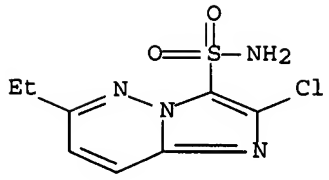
RN 570416-24-9 HCAPLUS
CN Imidazo[1,2-b]pyridazine-3-sulfonamide, 2-chloro-6-(2-methylpropyl)- (9CI) (CA INDEX NAME)



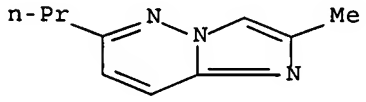
RN 570416-44-3 HCAPLUS
CN Imidazo[1,2-b]pyridazine, 2-chloro-6-ethyl- (9CI) (CA INDEX NAME)



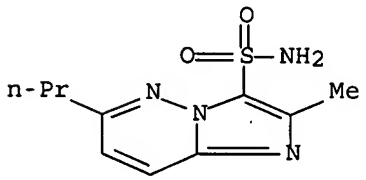
RN 570416-45-4 HCAPLUS
CN Imidazo[1,2-b]pyridazine-3-sulfonamide, 2-chloro-6-ethyl- (9CI) (CA INDEX NAME)



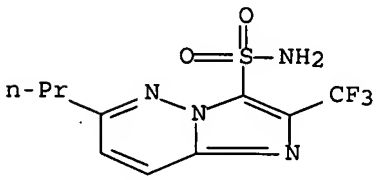
RN 570416-46-5 HCAPLUS
CN Imidazo[1,2-b]pyridazine, 2-methyl-6-propyl- (9CI) (CA INDEX NAME)



RN 570416-47-6 HCAPLUS
CN Imidazo[1,2-b]pyridazine-3-sulfonamide, 2-methyl-6-propyl- (9CI) (CA INDEX NAME)



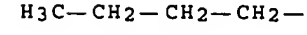
RN 649736-88-9 HCAPLUS
CN Imidazo[1,2-b]pyridazine-3-sulfonamide, 6-propyl-2-(trifluoromethyl)- (9CI) (CA INDEX NAME)



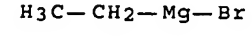
IT **109-72-8**, Butyllithium, reactions **925-90-6**, Ethylmagnesium bromide **926-62-5**, Isobutylmagnesium bromide **927-77-5**, n-Propylmagnesium bromide **1730-25-2**, Allylmagnesium bromide **2234-82-4**, n-Propylmagnesium chloride **2386-64-3**, Ethylmagnesium chloride **2591-76-6** **4637-24-5**, DMF dimethyl acetal **7790-94-5**, Chlorosulfonic acid **14092-04-7**, 1-Propenylmagnesium bromide **14793-00-1** **23719-80-4**, Cyclopropylmagnesium bromide **112581-77-8** **112582-77-1** **156567-57-6**, n-Propylzinc bromide **570416-53-4** **649736-83-4**
RL: RCT (Reactant); RACT (Reactant or reagent)

(preparation of imidazopyridazines as intermediates for herbicides)

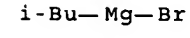
RN 109-72-8 HCAPLUS
CN Lithium, butyl- (CA INDEX NAME)



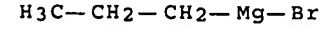
RN 925-90-6 HCAPLUS
CN Magnesium, bromoethyl- (CA INDEX NAME)



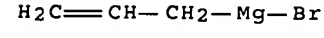
RN 926-62-5 HCAPLUS
CN Magnesium, bromo(2-methylpropyl)- (9CI) (CA INDEX NAME)



RN 927-77-5 HCAPLUS
CN Magnesium, bromopropyl- (7CI, 8CI, 9CI) (CA INDEX NAME)



RN 1730-25-2 HCAPLUS
CN Magnesium, bromo-2-propenyl- (9CI) (CA INDEX NAME)



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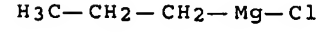
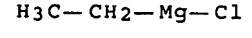
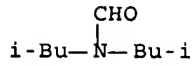
CN Magnesium, chloropropyl- (CA INDEX NAME)



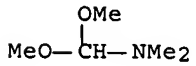
RN 2386-64-3 HCAPLUS
CN Magnesium, chloroethyl- (CA INDEX NAME)



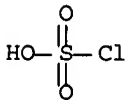
RN 2591-76-6 HCAPLUS
CN Formamide, N,N-bis(2-methylpropyl)- (9CI) (CA INDEX NAME)



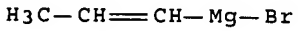
RN 4637-24-5 HCAPLUS
CN Methanamine, 1,1-dimethoxy-N,N-dimethyl- (CA INDEX NAME)



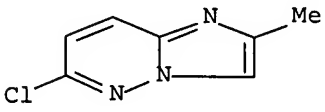
RN 7790-94-5 HCAPLUS
CN Chlorosulfuric acid (8CI, 9CI) (CA INDEX NAME)



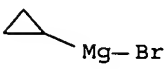
RN 14092-04-7 HCAPLUS
CN Magnesium, bromo-1-propenyl- (9CI) (CA INDEX NAME)



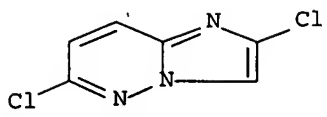
RN 14793-00-1 HCAPLUS
CN Imidazo[1,2-b]pyridazine, 6-chloro-2-methyl- (8CI, 9CI) (CA INDEX NAME)



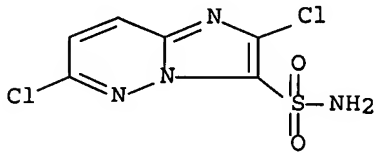
RN 23719-80-4 HCAPLUS
CN Magnesium, bromocyclopropyl- (CA INDEX NAME)



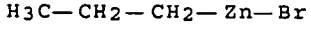
RN 112581-77-8 HCAPLUS
CN Imidazo[1,2-b]pyridazine, 2,6-dichloro- (CA INDEX NAME)



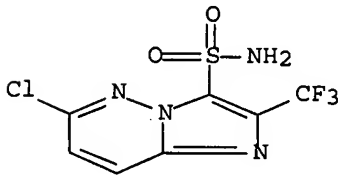
RN 112582-77-1 HCAPLUS
CN Imidazo[1,2-b]pyridazine-3-sulfonamide, 2,6-dichloro- (9CI) (CA INDEX NAME)



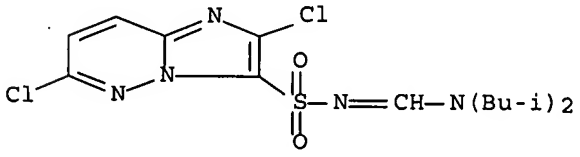
RN 156567-57-6 HCAPLUS
CN Zinc, bromopropyl- (9CI) (CA INDEX NAME)



RN 570416-53-4 HCAPLUS
CN Imidazo[1,2-b]pyridazine-3-sulfonamide, 6-chloro-2-(trifluoromethyl)- (9CI) (CA INDEX NAME)



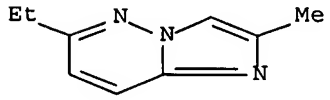
RN 649736-83-4 HCAPLUS
CN Imidazo[1,2-b]pyridazine-3-sulfonamide, N-[[bis(2-methylpropyl)amino]methylene]-2,6-dichloro- (9CI) (CA INDEX NAME)



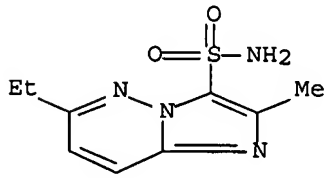
IT **570416-03-4P 570416-04-5P 570416-05-6P**
570416-06-7P 570416-07-8P 570416-08-9P
570416-12-5P 649736-84-5P 649736-85-6P

649736-86-7P 649736-87-8P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation of imidazopyridazines as intermediates for herbicides)

RN 570416-03-4 HCAPLUS
CN Imidazo[1,2-b]pyridazine, 6-ethyl-2-methyl- (9CI) (CA INDEX NAME)



RN 570416-04-5 HCAPLUS
CN Imidazo[1,2-b]pyridazine-3-sulfonamide, 6-ethyl-2-methyl- (9CI) (CA INDEX NAME)



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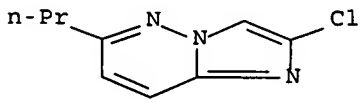
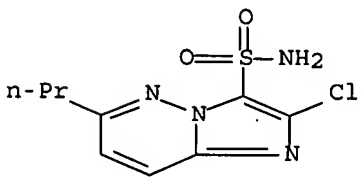


RN 570416-06-7 HCAPLUS
CN Imidazo[1,2-b]pyridazine-3-sulfonamide, 2-chloro-6-propyl- (CA INDEX NAME)



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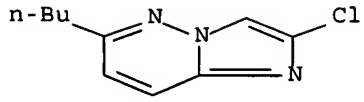
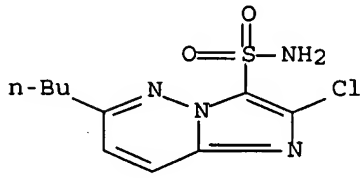
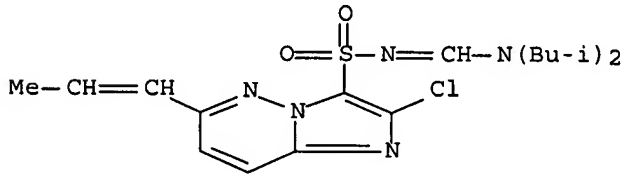


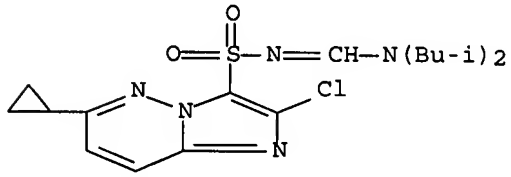
RN 570416-08-9 HCAPLUS
CN Imidazo[1,2-b]pyridazine-3-sulfonamide, 6-butyl-2-chloro- (9CI) (CA INDEX NAME)



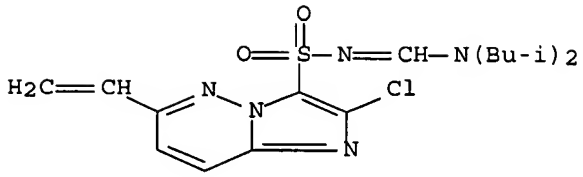
RN 570416-12-5 HCAPLUS
CN Imidazo[1,2-b]pyridazine-3-sulfonamide, N-[[bis(2-methylpropyl)amino]methylene]-2-chloro-6-(1-propenyl)- (9CI) (CA INDEX NAME)



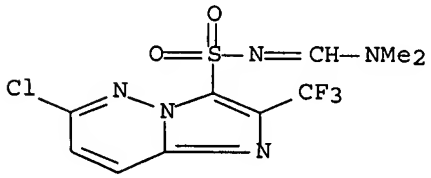
RN 649736-84-5 HCAPLUS
CN Imidazo[1,2-b]pyridazine-3-sulfonamide, N-[[bis(2-methylpropyl)amino]methylene]-2-chloro-6-cyclopropyl- (9CI) (CA INDEX NAME)



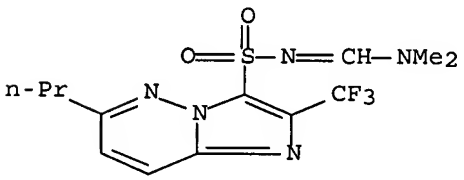
RN 649736-85-6 HCAPLUS
CN Imidazo[1,2-b]pyridazine-3-sulfonamide, N-[[bis(2-methylpropyl)amino]methylene]-2-chloro-6-ethenyl- (9CI) (CA INDEX NAME)



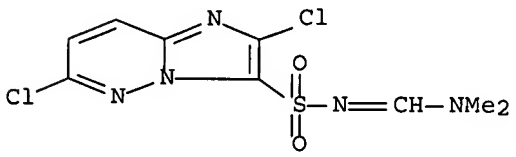
RN 649736-86-7 HCAPLUS
CN Imidazo[1,2-b]pyridazine-3-sulfonamide, 6-chloro-N-[(dimethylamino)methylene]-2-(trifluoromethyl)- (9CI) (CA INDEX NAME)



RN 649736-87-8 HCAPLUS
CN Imidazo[1,2-b]pyridazine-3-sulfonamide, N-[(dimethylamino)methylene]-6-propyl-2-(trifluoromethyl)- (9CI) (CA INDEX NAME)



IT **649736-89-0P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of imidazopyridazines as intermediates for herbicides)
RN 649736-89-0 HCAPLUS
CN Imidazo[1,2-b]pyridazine-3-sulfonamide, 2,6-dichloro-N-[(dimethylamino)methylene]- (9CI) (CA INDEX NAME)



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SEARCH IN CASREACT

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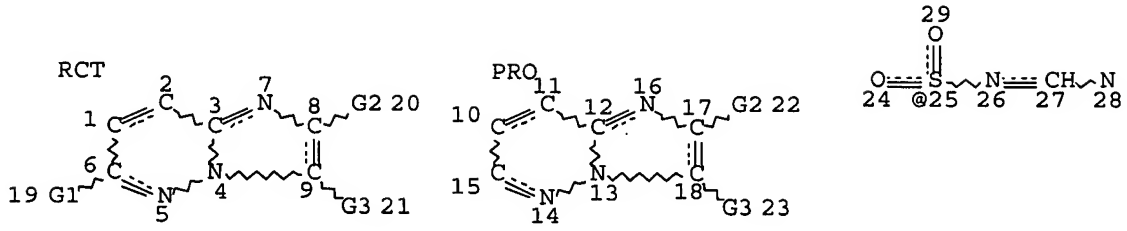

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NUMBER OF NODES IS 29

STEREO ATTRIBUTES: NONE
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100.0% DONE 197 VERIFIED 10 HIT RXNS 2 DOCS
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L9 ANSWER 1 OF 2 CASREACT COPYRIGHT 2007 ACS on STN
AN 140:128426 CASREACT Full-text
TI Preparation of imidazo[1,2-b]pyridazine derivatives
IN Tabuchi, Takanori; Yamamoto, Tetsuhiro; Kajiwara, Takeshi
PA Sumitomo Chemical Takeda Agro Company, Limited, Japan
SO PCT Int. Appl., 43 pp.
CODEN: PIXXD2
DT Patent
LA Japanese
IC ICM C07D487-04
CC 28-15 (Heterocyclic Compounds (More Than One Hetero Atom))
Section cross-reference(s): 5
FAN.CNT 2

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PI	WO 2004011466	A1	20040205	WO 2003-JP9003	20030716

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FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR,
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WO 2003061388 A1 20030731 WO 2003-JP244 20030115
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EP 1541575 A1 20050615 EP 2003-771268 20030716
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US 2005171108 A1 20050804 US 2003-522798 20030716
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JP 2005239735 A 20050908 JP 2005-94153 20050329
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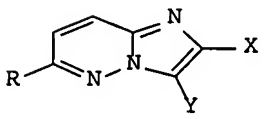

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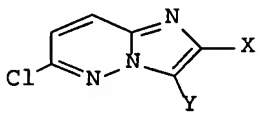


II

AB A process for easily and inexpensively producing an imidazo[1,2- b]pyridazin-3-ylsulfonamide derivative which has a substituent bonded to the 6-position carbon atom and is represented by the formula I(wherein R represents lower alkyl, lower cycloalkyl optionally substituted by lower alkyl, lower alkenyl, or lower alkynyl), the process comprising reacting an imidazo[1,2-b]pyridazine compound represented by the formula II (wherein X represents halogeno or lower alkyl optionally substituted by halogeno; Y represents hydrogen or SO2N = CH-NR1R2; and Z represents halogeno or OSO2R3) with an organometallic compound in the presence of a transition metal catalyst. The derivative is useful as an intermediate for herbicides. Thus, reaction of 6-chloro-2-methylimidazo[1,2-b]pyridazine with EtMgBr in Et2O and THF in the presence of NiCl2(dppp) gave 27.4% 6-ethyl-2-methylimidazo[1,2-b]pyridazine.
ST imidazopyridazine prepn intermediate herbicide
IT Herbicides
(intermediates; preparation of imidazopyridazines as intermediates for herbicides)
IT 15629-92-2
RL: CAT (Catalyst use); USES (Uses)
(preparation of imidazopyridazines as intermediates for herbicides)
IT 570416-17-0P 570416-18-1P 570416-19-2P 570416-23-8P 570416-24-9P

570416-44-3P 570416-45-4P 570416-46-5P 570416-47-6P 649736-88-9P
RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP (Preparation)
(preparation of imidazopyridazines as intermediates for herbicides)

IT 109-72-8, Butyllithium, reactions 925-90-6, Ethylmagnesium bromide 926-62-5, Isobutylmagnesium bromide 927-77-5, n-Propylmagnesium bromide 1730-25-2, Allylmagnesium bromide 2234-82-4, n-Propylmagnesium chloride 2386-64-3, Ethylmagnesium chloride 2591-76-6 4637-24-5, DMF dimethyl acetal 7790-94-5, Chlorosulfonic acid 14092-04-7, 1-Propenylmagnesium bromide 14793-00-1 23719-80-4, Cyclopropylmagnesium bromide 112581-77-8 112582-77-1 156567-57-6, n-Propylzinc bromide 570416-53-4 649736-83-4
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of imidazopyridazines as intermediates for herbicides)

IT 570416-03-4P 570416-04-5P 570416-05-6P 570416-06-7P 570416-07-8P 570416-08-9P 570416-12-5P 649736-84-5P 649736-85-6P 649736-86-7P 649736-87-8P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation of imidazopyridazines as intermediates for herbicides)

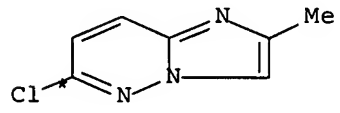
IT 649736-89-0P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of imidazopyridazines as intermediates for herbicides)

RE.CNT 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

(1) Ishikawa, T; THE JOURNAL OF ANTIBIOTICS 2001, V54(3), P257 CAPLUS
(2) Mourad, A; J Heterocyclic Chem 1992, V29, P1583 CAPLUS
(3) Pollak, A; Tetrahedron 1968, V24(6), P2623 CAPLUS
(4) Satoh, K; HETEROCYCLES 1978, V10, P269 CAPLUS
(5) Sumika Takeda Noyaku Kabushiki Kaisha; WO 03061388 A1 2003 CAPLUS
(6) Takeda Chemical Industries Ltd; JP 01-316379 A 1989 CAPLUS
(7) Takeda Chemical Industries Ltd; WO 0023450 A1 2000 CAPLUS
(8) Takeda Chemical Industries Ltd; EP 1123936 A1 2000 CAPLUS
(9) Takeda Chemical Industries Ltd; JP 12-191663 A 2000
(10) Takeda Chemical Industries Ltd; JP 12-191664 A 2000
(11) Takeda Chemical Industries Ltd; AU 6227399 A 2000

RX(1) OF 45 A + B ===> C...



A

B

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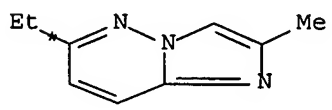
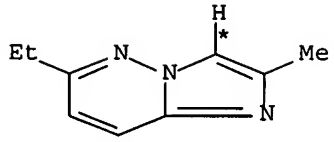


C
YIELD 27%

RX(1) RCT A 14793-00-1, B 925-90-6
PRO C 570416-03-4
CAT 15629-92-2 Ni complex
SOL 60-29-7 Et2O, 109-99-9 THF
CON SUBSTAGE(1) 2 hours, room temperature
SUBSTAGE(2) 3 hours, reflux

RX(2) OF 45 ...C ===> G



C

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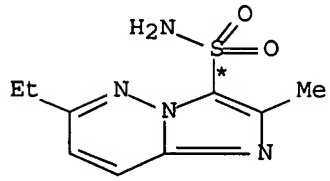


G
YIELD 44%

RX(2) RCT C 570416-03-4

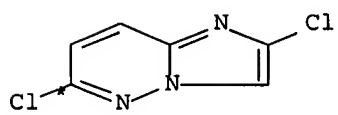
STAGE(1)
RGT H 7790-94-5 ClSO3H
SOL 107-06-2 ClCH2CH2Cl
CON 5 hours, reflux

STAGE(2)
RGT I 10025-87-3 POCl3, J 121-44-8 Et3N
CON 2 hours, reflux

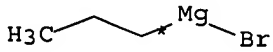
STAGE(3)
RGT K 1336-21-6 NH4OH
SOL 7732-18-5 Water
CON 2 hours, room temperature

PRO G 570416-04-5

RX(3) OF 45 N + O ===> P...



N



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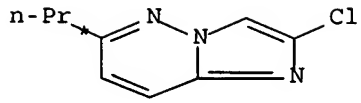
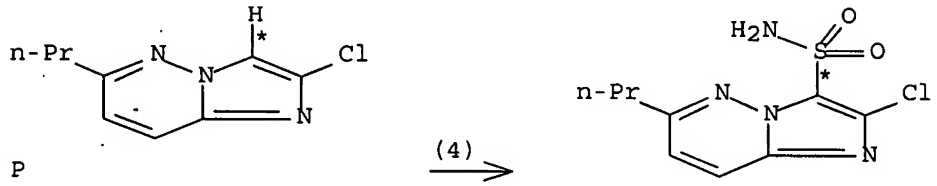


P
YIELD 88%

RX(3) RCT N 112581-77-8, O 927-77-5
PRO P 570416-05-6
CAT 15629-92-2 Ni complex
SOL 109-99-9 THF
CON SUBSTAGE(1) 10 minutes, 0 deg C
SUBSTAGE(2) 2 hours, room temperature

RX(4) OF 45 ...P ===> Q



P

Q
YIELD 43%

RX(4) RCT P 570416-05-6

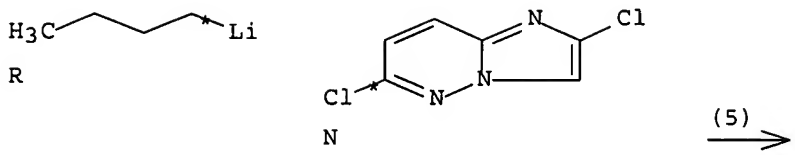
STAGE(1)
RGT H 7790-94-5 ClSO3H
SOL 107-06-2 ClCH2CH2Cl
CON 5 hours, reflux

STAGE(2)
RGT I 10025-87-3 POCl3, J 121-44-8 Et3N
CON 2 hours, reflux

STAGE(3)
RGT K 1336-21-6 NH4OH
SOL 7732-18-5 Water
CON 2 hours, room temperature

PRO Q 570416-06-7

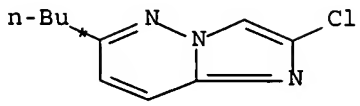
RX(5) OF 45 R + N ===> S...



R

N

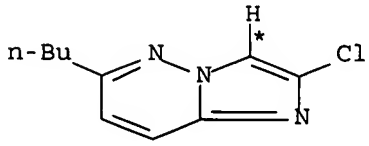
(5)



S
YIELD 96%

RX(5) RCT R 109-72-8, N 112581-77-8
RGT T 7646-85-7 ZnCl2
PRO S 570416-07-8
CAT 15629-92-2 Ni complex
SOL 109-99-9 THF
CON SUBSTAGE(1) 15 minutes, 0 deg C
SUBSTAGE(2) 3 hours, room temperature

RX(6) OF 45 ...S ===> U



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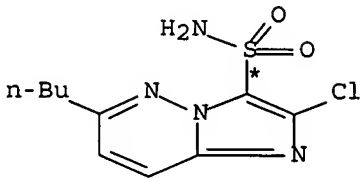


U
YIELD 66%

RX(6) RCT S 570416-07-8

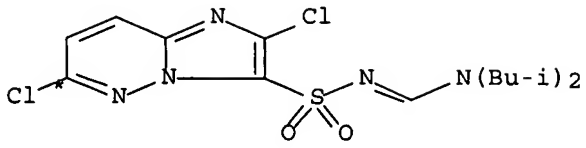
STAGE(1)
RGT H 7790-94-5 ClSO3H
SOL 67-66-3 CHCl3
CON 9 hours, reflux

STAGE(2)
RGT I 10025-87-3 POCl3, J 121-44-8 Et3N
CON 4 hours, reflux

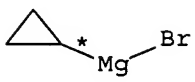
STAGE(3)
RGT V 7664-41-7 NH3
SOL 75-05-8 MeCN
CON SUBSTAGE(1) 30 minutes, 0 deg C
SUBSTAGE(2) 1 hour, room temperature

PRO U 570416-08-9

RX(7) OF 45 ...Y + Z ===> **AA**...

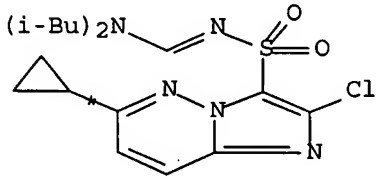


Y



Z

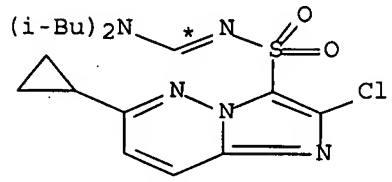
(7) →



AA
YIELD 45%

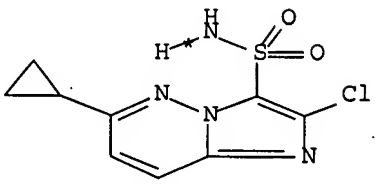
RX(7) RCT Y **649736-83-4**, Z 23719-80-4
RGT T 7646-85-7 ZnCl2
PRO AA **649736-84-5**
CAT 15629-92-2 Ni complex
SOL 109-99-9 THF
CON SUBSTAGE(1) 2 hours, -10 deg C
SUBSTAGE(2) 10 hours, room temperature

RX(8) OF 45 ...AA ===> AB



AA

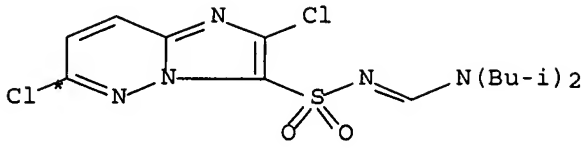
(8) →



AB
YIELD 50%

RX(8) RCT AA 649736-84-5
RGT AC 7647-01-0 HCl
PRO AB 570416-17-0
SOL 7732-18-5 Water, 123-91-1 Dioxane
CON 15 hours, 100 - 105 deg C

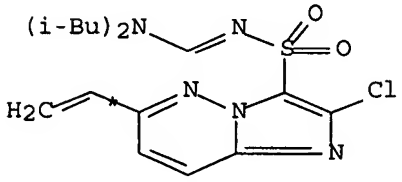
RX(9) OF 45 ...Y + AE ===> AF...



Y

AE

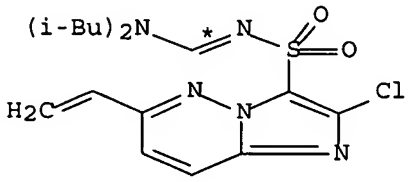
(9) →



AF
YIELD 80%

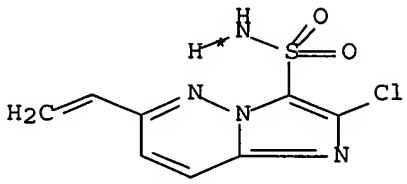
RX(9) RCT Y **649736-83-4**, AE 1730-25-2
RGT T 7646-85-7 ZnCl2
PRO AF **649736-85-6**
CAT 15629-92-2 Ni complex
SOL 109-99-9 THF
CON SUBSTAGE(1) 2 hours, -10 deg C
SUBSTAGE(2) 10 hours, room temperature

RX(10) OF 45 ...AF ===> AG



AF

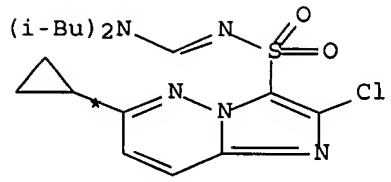
(10) →



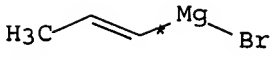
AG
YIELD 42%

RX(10) RCT AF 649736-85-6
RGT AC 7647-01-0 HCl
PRO AG 570416-18-1
SOL 7732-18-5 Water, 123-91-1 Dioxane
CON 15 hours, 100 - 105 deg C

RX(11) OF 45 ...AA + AH ===> AI...

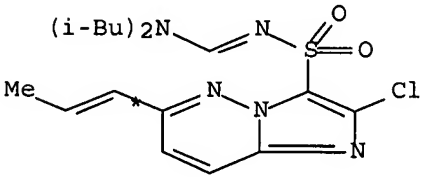


AA



AH

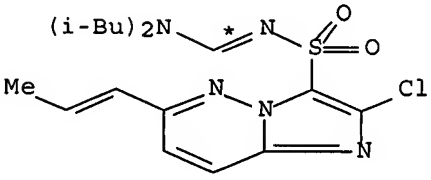
(11)



AI

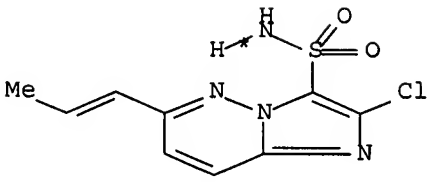
RX(11) RCT AA 649736-84-5, AH 14092-04-7
RGT T 7646-85-7 ZnCl2
PRO AI 570416-12-5
CAT 15629-92-2 Ni complex
SOL 109-99-9 THF
CON SUBSTAGE(1) 2 hours, -10 deg C
SUBSTAGE(2) 10 hours, room temperature

RX(12) OF 45 ...AI ===> AJ



AI

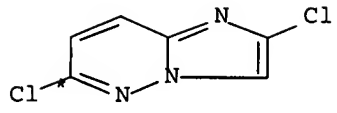
(12)



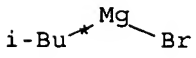
AJ

RX(12) RCT AI 570416-12-5
RGT AC 7647-01-0 HCl
PRO AJ 570416-19-2
SOL 7732-18-5 Water, 123-91-1 Dioxane
CON 15 hours, 100 - 105 deg C

RX(13) OF 45 N + AK ===> AL...

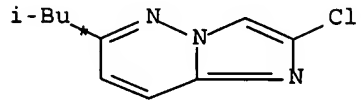


N



AK

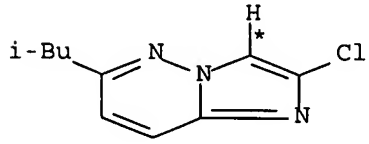
(13)



AL
YIELD 60%

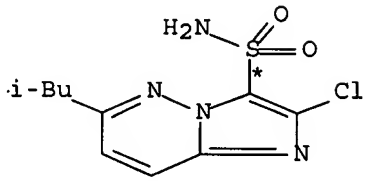
RX(13) RCT N 112581-77-8, AK 926-62-5
PRO AL 570416-23-8
CAT 15629-92-2 Ni complex
SOL 109-99-9 THF
CON SUBSTAGE(1) 10 minutes, 0 deg C
SUBSTAGE(2) 2 hours, room temperature

RX(14) OF 45 ...AL ===> AM



AL

(14)



AM
YIELD 64%

RX(14) RCT AL 570416-23-8

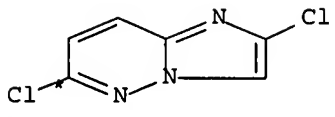
STAGE(1)
RGT H 7790-94-5 ClSO3H
SOL 67-66-3 CHCl3
CON 9 hours, reflux

STAGE(2)
RGT I 10025-87-3 POCl3, J 121-44-8 Et3N
CON 4 hours, reflux

STAGE(3)
RGT V 7664-41-7 NH3
SOL 67-66-3 CHCl3
CON SUBSTAGE(1) 30 minutes, 0 deg C
SUBSTAGE(2) 1 hour, room temperature

PRO AM 570416-24-9

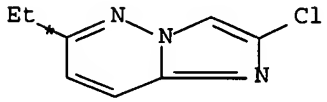
RX(15) OF 45 N + AN ===> AO...



N

AN

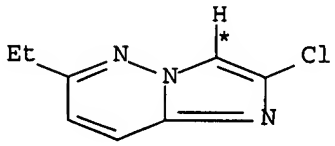
(15)



AO
YIELD 66%

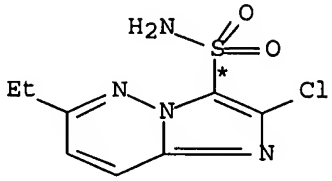
RX(15) RCT N 112581-77-8, AN 2386-64-3
PRO AO 570416-44-3
CAT 15629-92-2 Ni complex
SOL 109-99-9 THF
CON SUBSTAGE(1) 10 minutes, 0 deg C
SUBSTAGE(2) 2 hours, room temperature

RX(16) OF 45 ...AO ===> AP



AO

(16)



AP
YIELD 74%

RX(16) RCT AO 570416-44-3

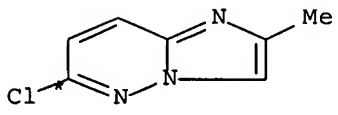
STAGE(1)
RGT H 7790-94-5 ClSO3H
SOL 107-06-2 ClCH2CH2Cl
CON 5 hours, reflux

STAGE(2)
RGT I 10025-87-3 POCl3, J 121-44-8 Et3N
CON 2 hours, reflux

STAGE(3)
RGT V 7664-41-7 NH3
SOL 75-05-8 MeCN
CON 2 hours, room temperature

PRO AP 570416-45-4

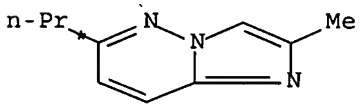
RX(17) OF 45 A + AQ ===> AR...



A

AQ

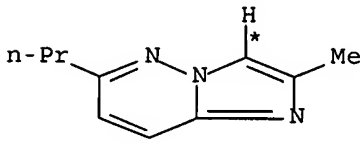
(17)



AR
YIELD 19%

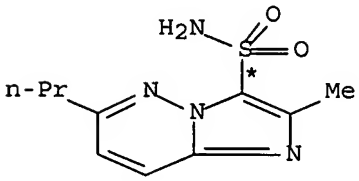
RX(17) RCT A 14793-00-1, AQ 2234-82-4
PRO AR 570416-46-5
CAT 15629-92-2 Ni complex
SOL 60-29-7 Et2O, 109-99-9 THF
CON SUBSTAGE(1) 2 hours, room temperature
SUBSTAGE(2) 3 hours, reflux

RX(18) OF 45 ...AR ===> AS



AR

(18)



AS
YIELD 14%

RX(18) RCT AR 570416-46-5

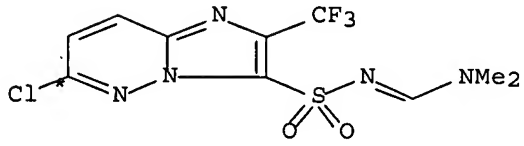
STAGE(1)
RGT H 7790-94-5 ClSO3H
SOL 107-06-2 ClCH2CH2Cl
CON 5 hours, reflux

STAGE(2)
RGT I 10025-87-3 POCl3, J 121-44-8 Et3N
CON 2 hours, reflux

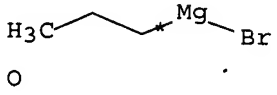
STAGE(3)
RGT V 7664-41-7 NH3
SOL 75-05-8 MeCN
CON 2 hours, room temperature

PRO AS 570416-47-6

RX(19) OF 45 ...**AT** + O ===> **AU**...

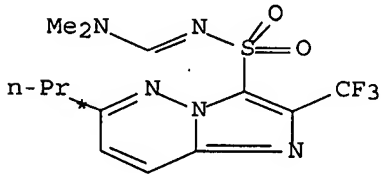


AT



O

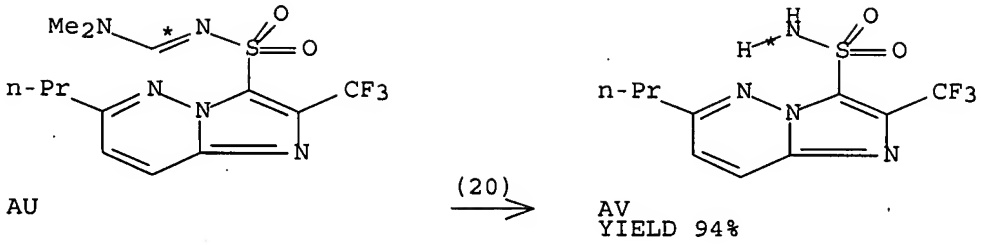
(19)



AU
YIELD 60%

RX(19) RCT AT **649736-86-7**, O 927-77-5
PRO AU **649736-87-8**
CAT 15629-92-2 Ni complex
SOL 109-99-9 THF
CON SUBSTAGE(1) 30 minutes, 0 deg C
SUBSTAGE(2) 4.5 hours, room temperature

RX(20) OF 45 ...AU ===> AV

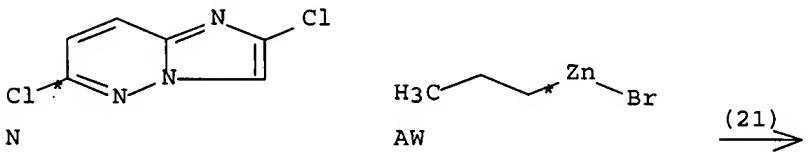


AU

AV
YIELD 94%

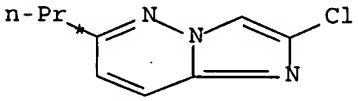
RX(20) RCT AU 649736-87-8
RGT AC 7647-01-0 HCl
PRO AV 649736-88-9
SOL 7732-18-5 Water, 123-91-1 Dioxane
CON SUBSTAGE(1) 2 hours, 60 deg C
SUBSTAGE(2) 2 hours, 80 deg C
SUBSTAGE(3) 2 hours, 90 deg C

RX(21) OF 45 N + AW ===> P...



N

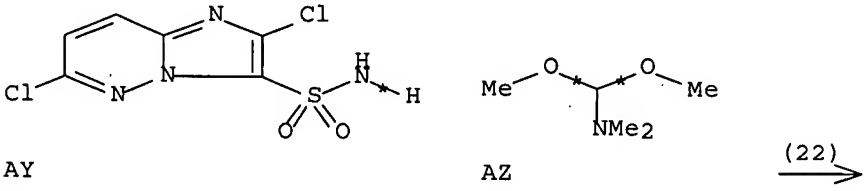
AW



P
YIELD 59%

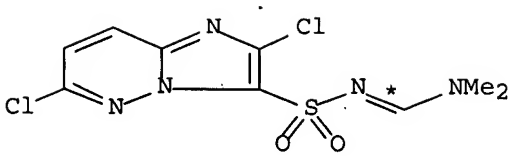
RX(21) RCT N 112581-77-8, AW 156567-57-6
PRO P 570416-05-6
CAT 15629-92-2 Ni complex
SOL 108-88-3 PhMe
CON 2 hours, 80 deg C

RX(22) OF 45 AY + AZ ===> BA



AY

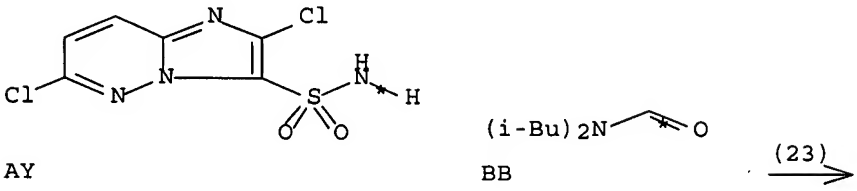
AZ



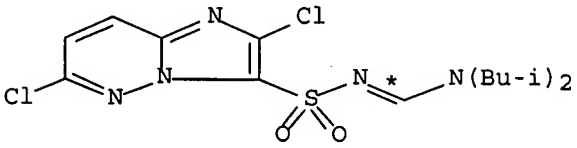
BA
YIELD 100%

RX(22) RCT AY 112582-77-1, AZ 4637-24-5
PRO BA 649736-89-0
SOL 108-88-3 PhMe
CON 4 hours, reflux

RX(23) OF 45 AY + BB ===> Y...



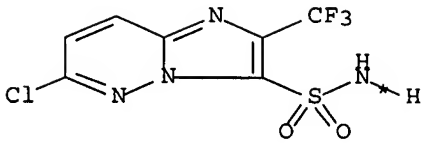
AY BB (23)



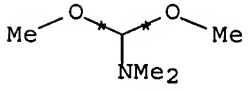
Y
YIELD 59%

RX(23) RCT AY 112582-77-1, BB 2591-76-6
RGT I 10025-87-3 POCl3, J 121-44-8 Et3N
PRO Y 649736-83-4
SOL 67-66-3 CHCl3
CON SUBSTAGE(1) 1 hour, 0 deg C
SUBSTAGE(2) 1 hour, room temperature

RX(24) OF 45 BC + AZ ===> AT...

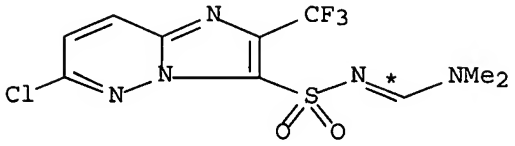


BC



AZ

(24) →



AT
YIELD 97%

RX(24) RCT BC 570416-53-4, AZ 4637-24-5
PRO AT 649736-86-7
SOL 108-88-3 PhMe
CON 3.5 hours, reflux

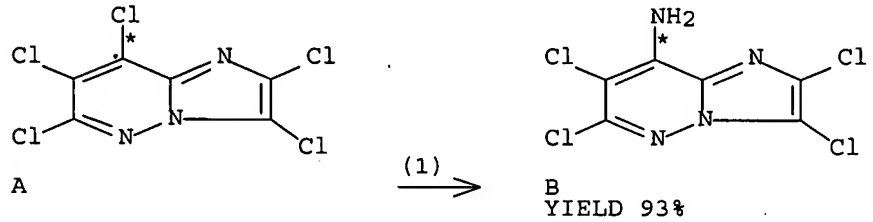
L9 ANSWER 2 OF 2 CASREACT COPYRIGHT 2007 ACS on STN
AN 83:58733 CASREACT Full-text
TI Pyridazines. LXIIV. Synthesis of some tricyclic heterocycles fused at the nitrogen-carbon (N-1-C-8) bond of imidazo[1,2-b]pyridazines
AU Polanc, S.; Stanovnik, B.; Tisler, M.
CS Dep. Chem., Univ. Ljubljana, Ljubljana, Yugoslavia
SO Synthesis (1975), (3), 175-6
CODEN: SYNTBF; ISSN: 0039-7881
DT Journal
LA English
CC 28-16 (Heterocyclic Compounds (More Than One Hetero Atom))
GI For diagram(s), see printed CA Issue.
AB Tetrachloroaminoimidazo[1,2-b]pyridazine (I, R = NH2, R1 = Cl) obtained from the pentachloro compound and NH3, was dehalogenated (Pd-C) to give I (R = NH2, R1 = H), which reacted with PhCOCH2Br to give the azoniatriazaacenaphthylene derivative II. II reacted with COCl2 to give the azoniatriazacyclopentindene III. I (R = SK, R1 = Cl) was refluxed with (BrCH2)2-MeOH to give the disulfide IV.
ST aminoimidazopyridazine; azoniatriazacyclopentindene; imidazopyridazine amino; chloroaminoimidazopyridazine; azoniatriazaacenaphthylene
IT 56477-91-9P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and dechlorination of)
IT 56477-92-0P 56477-93-1P 56477-94-2P 56477-95-3P 56477-96-4P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)
IT 56477-97-5
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction with 1,2-dibromoethane)
IT 33852-31-2

RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction with ammonia)

IT 106-93-4
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction with potassium mercaptotetrachloroimidazo[1,2-b]pyridazine)

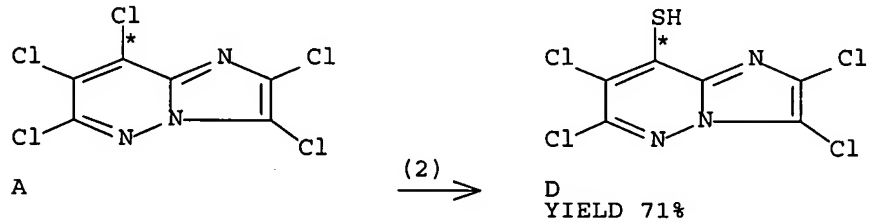
IT 7664-41-7, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(with pentachloroimidazo[1,2-b]pyridazine)

RX(1) OF 8 **A ===> B**



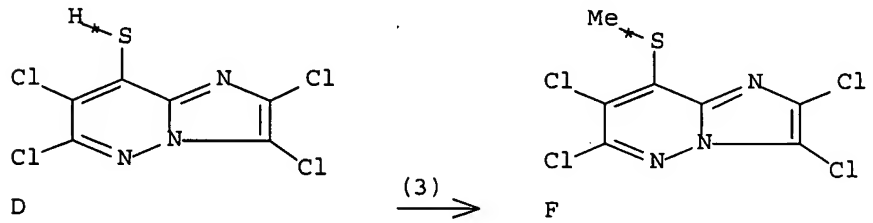
RX(1) RCT A 33852-31-2
RGT C 7664-41-7 NH3
PRO B 56477-91-9

RX(2) OF 8 **A ===> D...**



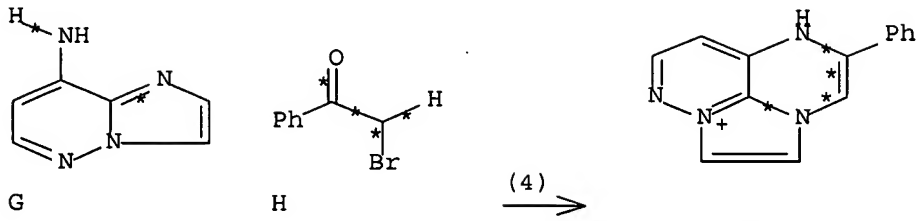
RX(2) RCT A 33852-31-2
RGT E 1310-61-8 KSH
PRO D 56477-93-1

RX(3) OF 8 **...D ===> F**



RX(3) RCT D 56477-93-1
PRO F 337914-12-2

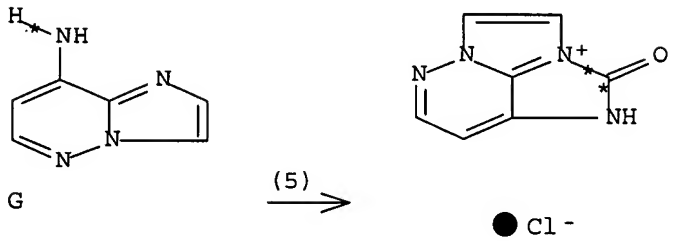
RX(4) OF 8 G + H ===> I



G H I
YIELD 73%

RX(4) RCT G 56477-92-0, H 70-11-1
PRO I 56477-94-2

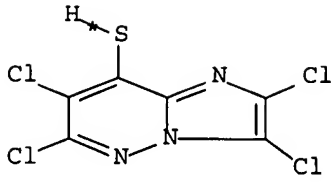
RX(5) OF 8 G ===> J



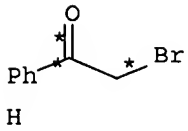
G J
YIELD 72%

RX(5) RCT G 56477-92-0
PRO J 56477-95-3

RX(6) OF 8 ...2 D + H ===> K

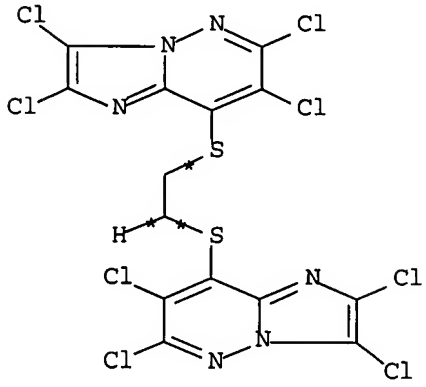


2 D



H

(6) ⟶



K
YIELD 21%

RX(6) RCT D 56477-93-1, H 70-11-1
PRO K 56477-96-4